GIS IN SUPPORT OF FACILITY MASTER PLANNING

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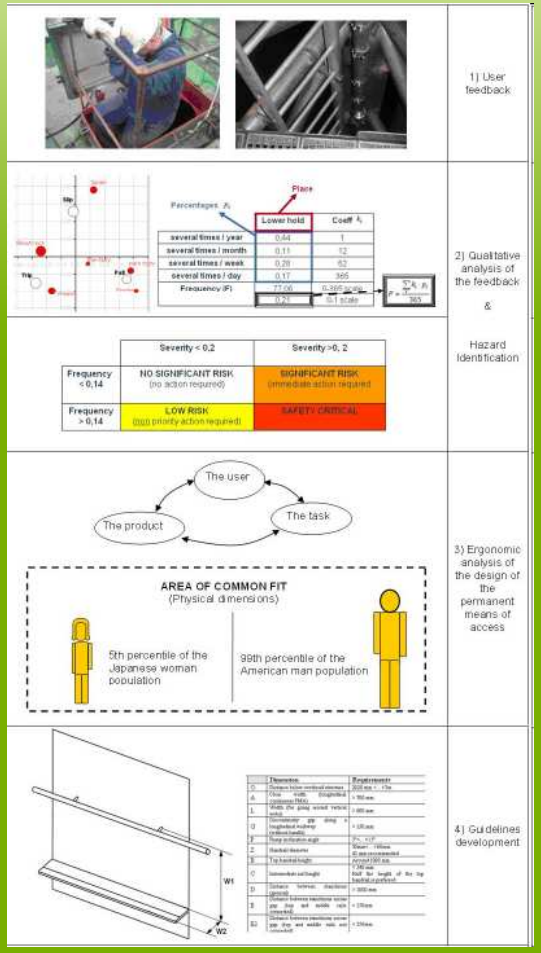
2009 NASA FACILITIES ENGINEERING AND REAL PROPERTY SYMPOSIUM

GEOGRAPHICAL INFORMATION SYSTEM IN SUPPORT OF MASTER PLANNING

Facility Master Planning Attempts to Accommodate the Future Needs of Humanity



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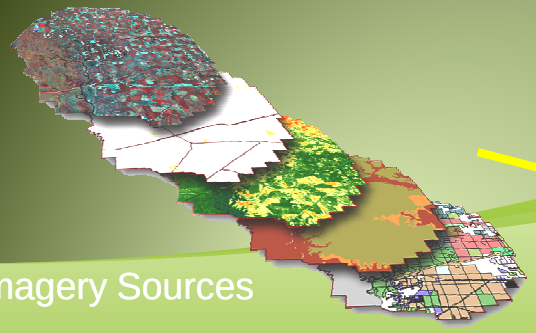
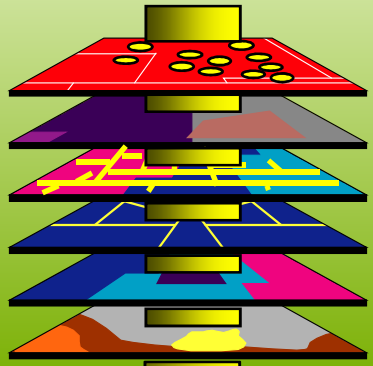
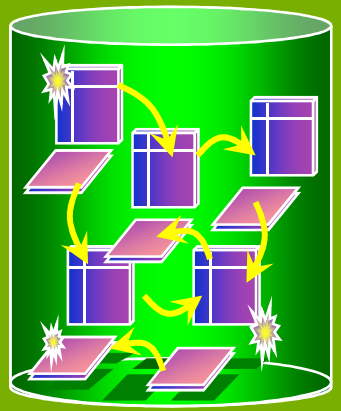


Imagery Sources



Logical Based Mathematical Analysis

Many raster & vectors layers of information in the database representing major themes for every NASA center



GIS database

Dynamic attribute data

Attributes of sde.SDE.Buildings

BUILDING_	X	Y	CORE_ASSET	NAME	TOT_USABLE
3305	-89.599401	30.375409	Y	Cent Comp Hpg Facility	9115
4122	-89.587236	30.363954	Y	A complex A2 Test Stand	13936
4210	-89.579757	30.363912	Y	BTest Complex Test Control Center	14366
4110	-89.590731	30.363693	Y	A Test Complex Test Control Center	9040
1110	-89.616192	30.367036	Y	Date/Eng Support Building	13054
1105	-89.616346	30.368239	Y	SSC Environmental Lab	52904
4010	-89.602227	30.360318	Y	Component Test Facility	24135
8100	-89.622188	30.382861	Y	Comp Serv Fac/Inst Lab	64285
3202	-89.611293	30.354792	Y	Space Shuttle/S1C Booster	55027
8306	-89.597005	30.377463	Y		7000
4220	-89.579804	30.368876	Y	B complex B1 Test Stand	103145
4221	-89.579804	30.368876	Y	B complex B2 Test Stand	103145
4400	-89.583977	30.358633	Y	High Pressure Indus Water	2285
4008	-89.602024	30.363973	Y	Test Facility E-2 Cell 2	0
4120	-89.594147	30.364285	Y	A complex A1 Test Stand	14020
1103	-89.616583	30.36984	Y	1103	42993
8110	-89.622205	30.383936	Y	Cryogenics Building	19190

Record: 0 Show: All Selected Records (0 out of 279 Selected)

Better Decisions

GEOGRAPHICAL INFORMATION SYSTEM IN SUPPORT OF MASTER PLANNING

Why Use GIS for Master Planning?

1. ***Site Selection and Suitability (Land Use)***
2. ***Neighborhood Analysis and Public Outreach***
3. ***Land Management & Environmental Stewardship***
4. ***Emergency Response Planning & Public Safety***
5. ***Facility and Asset Management***
6. ***Transportation Analysis***
7. ***LEED (Leadership in Energy and Environmental Design) Analysis & Capital Improvement***
8. ***3D Visualization and External Data Sources***
9. ***Alternatives and Choice!***

GEOGRAPHICAL INFORMATION SYSTEM IN SUPPORT OF MASTER PLANNING

What Types of Questions Can GIS Address for Master Planning?

1. ***What is the population distribution at various times during the day?***
2. ***Would my new building's size impact available parking?***
3. ***What are the occupancy rates of the 4 buildings closest to the main thoroughfare?***
4. ***How many sustainable assets are currently being utilized and where are they located?***
5. ***Will the roads be compromised during a 100-year flood event?***
6. ***What is the energy cost per occupant per building per month?***
7. ***What are the impacts to noise/sound within an area?***

GEOGRAPHICAL INFORMATION SYSTEM IN SUPPORT OF MASTER PLANNING

A GIS-based Needs Assessment for Master Planning

1. ***Identify Stakeholders***
2. ***Inventory Resources***
3. ***Establish Priorities***
4. ***Create System Design***
5. ***Conduct a Pilot Project***
6. ***Prepare Implementation Plan***
7. ***Implement the System***
8. ***Evaluate Successes and Failures***

GEOGRAPHICAL INFORMATION SYSTEM IN SUPPORT OF MASTER PLANNING

The Rosenbaum House (Florence, AL) by Frank Lloyd Wright

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HANDOUTS